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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,193	01/23/2004	Michael L. McSwiney	ITL1056US (P17793)	8063
21906 7590 07/18/2008 TROP PRUNER & HU, PC 1616 S. VOSS ROAD, SUITE 750 HOUSTON, TX 77057-2631				
EXAMINER				
TUROC, DAVID P				
ART UNIT		PAPER NUMBER		
1792				
MAIL DATE		DELIVERY MODE		
07/18/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/764,193

**Applicant(s)**

MCSWINEY ET AL.

**Examiner**

DAVID TUROCY

**Art Unit**

1792

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 6/11/2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 7, 10, 11, 13-20 and 22-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11, 19 and 20 is/are allowed.
- 6) ☒ Claim(s) 1, 7, 10, 13-18 and 22-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's amendments, filed 6/11/2008, have been fully considered and reviewed by the examiner. The examiner note the amendment to claims 1 and 11 to include the subject matter of claim 6 and 12 and the subsequent cancellation of claims 6 and 12, as well as the cancellation of claims 29-36. Claims 1, 7, 10, 11, 12-, 4-20, 22-28 remain pending in the instant application.

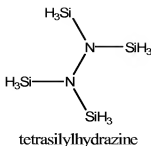
### ***Response to Arguments***

2. Applicant's arguments with respect to claims have been considered but are not persuasive.

The applicants have argued against the Bao reference, stating the reference deposits the film at a higher temperature then claimed. The examiner disagrees, the figures clearly discloses a higher weight loss of pyrolytic yield when using a lower temperature, but none the less a silicon nitride film is shown as deposited within the temperatures as claimed.

The applicants have argued against the Todd reference, stating that the reference does not discloses a hydrazine. However, the examiner notes Todd discloses  $(\text{H}_3\text{Si})_2\text{N}-\text{N}(\text{H}_3\text{Si})_2$  which is tetrasilylhydrazine, which is a claimed precursor, as evidenced by claim 24.

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All other arguments not addressed above are deemed moot because they are directed to mere allegation of patentability unsupported by any factual evidence.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 13-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The examiner can not locate support in the specification for using 1,2,4,5-tetraaza-3,6-disilacyclohexane as a silicon precursor in combination with another silicon precursor as claimed.

If the applicant can provide support in the specification as originally filed the examiner will withdraw this rejection

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 7, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Bao et al. (Polycyclodisilazane: a new polymeric precursor for silicon nitride-based ceramics).

Claims 1 and 7: Bao discloses a providing a silicon precursor (alkyl, halogenated or amine substituted cyclohydrazine) and a nitrogen source and co-reacting to form a silicon nitride film (page 395, 398, table I). The film is deposited at less than 500°C (figure).

Claim 10: The film will inherently have an impurity profile.

7. Claims 22-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Todd (USPN 20020016084 A1).

Claims 22-25: Todd discloses providing a silicon precursor (tetrasilylhydrazine) and a nitrogen precursor (ammonia) to form a silicon nitride film (Paragraph 0027-0031).

Claims 26: Todd discloses mixing in a solvent to spin coat (0031).

Claim 27: The film will inherently have an impurity profile.

Claim 28: Todd discloses less than 500°C deposition temperature (0034-0036).

***Allowable Subject Matter***

8. Claims 11, 19-20 are allowed.
9. The following is a statement of reasons for the indication of allowable subject matter: None of the prior art cited or reviewed by the examiner alone or in combination reasonably teaches or makes obvious the use of the specific compound as claimed by the applicant in claim 11.
10. Additionally, if the applicant can properly overcome the 35 USC 112 1<sup>st</sup> paragraph rejection of claims 13-18 with a showing of support, these claims would be allowable.

***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID TUROCY whose telephone number is (571)272-2940. The examiner can normally be reached on Monday-Friday 8:30-6:00, No 2nd Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David Turocy/  
Examiner, Art Unit 1792

/Timothy H Meeks/  
Supervisory Patent Examiner, Art Unit 1792